

AIDS TO MEDICINE

PART IV



ARMAND SEMPLE

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AIDS TO MEDICINE.

PART IV.

THE FEVERS, SKIN DISEASES, AND INTESTINAL
WORMS.

BY

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P R E F A C E.

WITH this work the present series of 'Aids to Medicine' is completed.

The following pages really consist of an abstract of lectures delivered during many years past to pupils preparing for the examinations of the Royal College of Physicians, Apothecaries' Hall, and the other medical examining bodies.

The effort has been to present to the student the leading characters only of the subjects with which the volume deals, and its contents are merely intended either as an introduction to the study of medicine, or to serve as a means of refreshing the memory after careful perusal of the recognised text-books.

ARMAND SEMPLE.

8, TORRINGTON SQUARE, W.C.,

March, 1883.

ERRATUM.

Page 13, lines 3 and 4 from the bottom :

The words "*morning*" and "*evening*" should be transposed so that the sentence should read as follows :

"But still that of the *evening* is greater than that of the *morning*."

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THE SKIN DISEASES PROPER.

Papulæ :

- | | | |
|------------------|---|--|
| 1. Lichen - - - | { | Lichen Circumscriptus.
„ Agrius.
„ Strophulus. |
| 2. Prurigo - - - | { | Prurigo Mitis.
„ Formicans.
„ Senilis,
„ Podicis ; Pudendi; Scroti, &c. |
3. Scabies.
-

Squamæ :

- | | | |
|--------------------|---|---|
| 1. Psoriasis - - - | { | Psoriasis Guttata.
„ Diffusa.
„ Capitis.
„ Palmaris.
„ Plantaris. |
|--------------------|---|---|
2. Ichthyosis.
- | | | |
|---------------------|---|--|
| 3. Pityriasis - - - | { | Pityriasis Capitis, &c.
„ Versicolor. |
|---------------------|---|--|
-

Exanthemata :

- | | | |
|------------------|---|---|
| 1. Roseola - - - | { | Symptomatica, as Roseola Variolosa,
&c.
Idiopathica, as Roseola Infantilis, &c. |
|------------------|---|---|
- | | | |
|-------------------|---|---|
| 2. Erythema - - - | { | Erythema Læve.
„ Fugax.
„ Intertrigo.
„ Nodosum. |
|-------------------|---|---|
3. Urticaria.

Vesiculæ: Bullæ:

- | | | | | | |
|-----------------------------|---|---|---|---|-------------------------------------|
| 1. Eczema | - | - | - | { | Eczema Simplex. |
| | | | | | „ Rubrum. |
| | | | | | „ Impetiginodes. |
| | | | | | „ Capitis, &c. |
| 2. Herpes | - | - | - | { | Circinate group, eruption circular. |
| | | | | | Phlyctenoid group, „ irregular. |
| | | | | | Herpes Zoster (Zona). |
| | | | | | „ Preputialis. &c. |
| 3. Miliaria. | | | | | Sudamina. |
| 4. Scabies. | | | | | |
| 5. Pemphigus, or Pompholyx. | | | | | |
-

Pustulæ.

- | | | | | | |
|--------------|---|---|---|---|----------------|
| 1. Impetigo. | | | | | |
| 2. Ecthyma. | | | | | |
| 3. Acne | - | - | - | { | Acne Simplex. |
| | | | | | „ Rosacea. |
| | | | | | „ Indurata. |
| 4. Rupia | - | - | - | { | Rupia Simplex. |
| | | | | | „ Prominens. |
-

Tuberculæ.

- | | | | | | |
|-------------------|---|---|---|---|---------------------------------|
| 1. Molluscum | - | - | - | { | Molluscum Fibrosum, Simplex, or |
| | | | | | Congenitale. |
| | | | | | „ Pedunculatum. |
| | | | | | „ Contagiosum. |
| 2. Lupus | - | - | - | { | Lupus Erythematosus. |
| | | | | | „ Exedens. |
| | | | | | „ Non-Exedens. |
| 3. Keloid. | | | | | |
| 4. Elephantiasis. | | | | | |
| 5. Framboesia. | | | | | |

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- | | | | |
|----|--|---|---------------------------------|
| 1 | Tinea Favosa, | { | Favus Pilaris. |
| | | | „ Epidermidis. |
| | | | „ Unguium. |
| 2. | Tinea Tonsurans, | { | Tinea Circinata, or Herpes Cir- |
| | | | cinatus. |
| | | | „ Sycosis. |
| 3. | Alopecia Areata, or Porrigo Decalvans. | | |
-

INTESTINAL WORMS.

Ascaris Lumbricoides.	Tænia Solium.
Oxyuris Vermicularis.	Tænia Mediocanellata.
Trichocephalus Dispar.	Bothriocephalus Latus.
Trichina Spiralis.	

AIDS TO MEDICINE.

THE FEVERS.

PYREXIA.

Definition.—Simple fever.

Symptoms.—These are the following, viz. :—a quick pulse, thirst, increased heat of skin, anorexia, confined bowels, scanty high-coloured urine, debility, general restlessness, and sleeplessness.

Stages—Three in number :

1. The INITIAL or PYROGENETIC Stage ; this usually commences with a shivering fit, in which, although the patient complains of feeling cold, the temperature is high.
2. The ACME or FASTIGIUM : in this the highest average temperature of the disease is reached.
3. The STAGE of DECREMENT or PERIOD of CRITICAL PERTURBATION, succeeded by a period of DEFERVESCENCE or cooling down ; if this is *slow*—occupying several days—it is termed a LYSIS ; if *sudden*, a CRISIS.

In nearly all inflammations there are the symptoms of fever ; and it is therefore highly important to examine the state of the chief organs to ascertain if there be any local cause to account for the presence of

these symptoms. Very acute febrile manifestations may arise in children from gastric irritation, or from teething; on the other hand, every fever may give rise to local disturbances, and therefore it must not be concluded because some organ is affected that it has of necessity occasioned the fever.

Fever, dependent upon some local cause, is termed Symptomatic or Secondary.

When no local cause exists, the fever is termed Primary, Idiopathic, or Essential.

TEMPERATURES.

The thermometer having been previously warmed in the hand, the bulb should be placed in the axilla for about five minutes. Temperatures should be taken twice a day. The best times are, from 7 to 9 o'clock in the morning, and from 5 to 7 o'clock in the evening. The normal temperature of the axilla is $98^{\circ}6$ Fahr., and any signal deviation from this, either above 99° Fahr., or below 97° Fahr., indicates ill-health.

RULES CONCERNING TEMPERATURES.

The following should be remembered :—

1. A very high or very low temperature must be looked upon as dangerous; should it be excessive either way, the case will probably prove fatal.
2. A very sudden change is suspicious, and very frequently dangerous.

In children, however, the presence of indigestible food in the intestinal canal, may send the temperature up very rapidly, and in puerperal women the same result may take place from trifling causes.

3. After the temperature has been stationary for

some time, or has commenced its fall, a fresh rise may herald the advent of some complication, or of a new disease.

4. An unexpected fall may denote hæmorrhage, exhausting diarrhoea, or the perforation of the peritoneum or pleura.
5. A considerable rise during the course of a disease which is not generally regarded as febrile, viz., in tetanus, epilepsy, and cancer, usually precedes death.

The INCUBATION STAGE is the period between the exposure to the infection and the onset of the fever; its duration differs in different fevers.

The FEBRILE STAGE is the first appearance of the illness; it is terminated by the eruption, which is then called the ERUPTIVE STAGE.

Fevers are divided into the following

- Varieties* :—1. The Continued.
 2. The Intermittent.
 3. The Remittent.
 4. The Relapsing.
 5. The Eruptive Fevers.

The last, viz.: the Eruptive Fevers, properly belong to the exanthemata, but they may be conveniently described under this head.

Fevers are also named according to the organ or system affected, viz.: *Mucous, Gastric, Nervous*, when the distinction is not very clear between the essential and symptomatic forms.

Fever, with great prostration, is termed *Adynamic*.
 When symptoms referable to the nervous system

appear, such as delirium, the fever is termed *Ataxic*; if there is a tendency to a fatal result, it is termed *Malignant*.

Fever, supposed to show septic changes in the fluids, is termed *Putrid*.

When there is an accumulation of blood in the vessels of the internal organs the fever is called *Con-gestive*.

Typhus has been called Ship, Jail, or Camp Fever; and to periodical fevers, in different localities, the names Jungle, Coast, Swamp Fever, &c., have been applied.

THE CONTINUED FEVERS.

Under this heading are included :—

1. SIMPLE CONTINUED FEVER or FEBRICULA.
2. TYPHUS FEVER.
3. TYPHOID, ENTERIC or PYTHOGENIC FEVER.

SIMPLE CONTINUED FEVER. FEBRICULA.

This fever is termed *continued* since it pursues its course without any well-marked remission.

Symptoms.—These are: headache, full rapid pulse, sickness, white coated tongue, anorexia, thirst, skin hot and dry, bowels confined, pains in back and limbs, general languor and debility. The urine is scanty, due to deficiency of water, and the urea and the uric acid are usually increased, indicating increased destructive assimilation. There is no eruption, and the attack is usually terminated by sweating.

TREATMENT OF FEVERS.

In all fevers there is a tendency to run a certain course, and to end naturally in the re-establishment of health. There are, however, as in the management of

all diseases, certain indications of treatment. Thus, in fevers, these are:—

1. To diminish the arterial excitement.
2. To support the powers of the system.
3. To obviate congestion and local inflammations.
4. To bring down the temperature when it tends to hyperpyrexia.
5. To alleviate urgent symptoms.

To attempt to *cure* a fever is a manifest absurdity; all that can be done is to guide the patient safely through the danger, in fact, to act as the pilot in the storm, applying judicious measures to meet each complication.

TYPHUS FEVER.

Symptoms.—An attack of typhus is generally rather sudden, commencing with languor, chilliness, giddiness, and pains in the head and limbs.

Loss of muscular power is very marked and early.

When the disease is fully established the patient lies on the back in a state of low muttering delirium or semi-consciousness. The cheeks are uniformly flushed and of a dusky or dingy hue. Sordes form upon the lips. The tongue is dry and coated with thick brown fur, there are loss of appetite and thirst, and heavy persistent headache, but diarrhoea is usually absent, and if present is only slight in quantity, the evacuations not being of an ochrey colour as in typhoid fever, the pulse is feeble and rapid, the respirations are increased in number, and the skin is hot.

The average temperature varies from 102° to 107° Fahr. It generally rises suddenly at the onset, but, although it is highest in the evening, the difference between the morning and evening temperatures is not

so marked as in typhoid fever. The urine is said to be deficient in chlorides. With the advance of the disease, there is increasing stupor, and the pupils are contracted to a pin's point (the pin-hole pupil of Graves); increased dulness in the splenic region may be found.

Period of Incubation.—The average duration is about ten days.

Day of the appearance of the rash.—From the fifth to the seventh day of the illness.

Character of the Eruption.—A number of spots of a dull or dark red colour, usually appearing first on the trunk, and well developed upon the chest and front of the shoulders. The spots resemble mulberry stains, are usually abundant, and rapidly become persistent, *i.e.*, not disappearing under pressure. They are *maculated*, and not slightly papular as in typhoid. Subcuticular mottling is also marked.

The critical stage is at about the end of the second week, or in more severe cases, at the commencement of the third week.

In favourable cases the decline of the fever is often very sudden, forming a *Crisis*, and the turning point is usually about the fourteenth day. The rash may be absent in young persons and in children.

Complications.—Typhus is very commonly complicated with pneumonia, bronchitis, or pleurisy, and sometimes with convulsions. Jaundice is rare, albuminuria frequent; sudamina, boils, erysipelas, gangrene and sloughing are common. Bed-sores and mortification of the toes are apt to form, and sometimes inflammation followed by suppuration of the parotid gland occurs.

Causes.—*Predisposing.*—Mental or bodily exhaustion, overcrowding, imperfect ventilation, and insufficient food.

Exciting.—A *Specific Poison* which is generated in the bodies of persons suffering from prolonged want of food, and, at the same time, exposed to organic exhalations: and *Infection*, by the poison thus generated.

Typhus is the most contagious and infectious of all the fevers, and may attack persons at any time of life, and occurs as an epidemic; but whereas typhoid is more common to youth, typhus appears rather to select persons after that period. The poison is contained in the exhalations from the lungs and skin of the patient, and is probably introduced by the lungs into the system of another person.

Pathology.—The blood is very dark and fluid, the bile dark and thick like treacle, the muscles are dark and easily torn, and the cerebral membranes sometimes gorged with blood. There is sometimes a passive effusion of serum between the brain-membranes. The kidneys are often congested. The liver and spleen may be congested and softened.

Disinfection and Prophylaxis.—The exhalations of the patient should be carefully avoided; free ventilation must be ensured; and lumps of charcoal should be distributed about the room. All articles of clothing should be exposed to the action of boiling water or steam, and afterwards rinsed with a saturated solution of permanganate of potash, or other disinfectant, as carbolic acid. The mattresses should be baked.

Treatment.—The patient should be placed in a cool, well-ventilated room, in which a brisk fire is kept burning. If the skin be pungently hot, he may be immersed in a hot bath for five minutes, or tepid sponging may be employed. Ice may be applied to the head, and with severe brain symptoms the head should be shaved, or for the relief of the headache, the cold douche may be applied, or blisters to the fore-

head. The bowels may be opened by cholagogue purgatives. The great danger is the extreme exhaustion, to counteract which, good nursing is indispensable.

The diet should consist of eggs, milk, beef-tea, and tea, and coffee, which diminish tissue waste. Alcoholic stimulants are especially valuable, brandy being the best, which may be mixed with iced water and given every one or two hours. Ammonia with decoction of cinchona is very useful, and quinine and acid may be given during convalescence. The formation of bed-sores should be carefully watched. The chest complications must be treated according to the symptoms.

TYPHOID, ENTERIC, OR PYTHOGENIC FEVER.

Symptoms.—An attack of typhoid is generally insidious, and may continue for some time undetected; it may commence with chilliness, loss of appetite, and slight pyrexia, sometimes accompanied by nausea and slight diarrhoea, and sometimes not; in fact, constipation is occasionally a marked symptom at this period. When fully established, evidences of gastro-intestinal irritation are always present, viz., a glazed tongue, red at the tip and edges, sometimes dry and fissured; the pulse is small and rapid, the face pinched and pale, and the cheeks marked with a circumscribed hectic flush. After a time the lips become cracked, and sordes may form upon the teeth. Diarrhoea probably now sets in, the stools being watery and ochre-coloured (the pea-soup stools), and there is tenderness and gurgling on pressure over the right iliac fossa, and a blown condition of the abdomen. Brain symptoms are not so marked as in typhus, although delirium may be present, and sometimes of so violent a nature that the disease has been mistaken for cerebritis.

Period of Incubation.—About ten days.

Day of appearance of the rash.—From the seventh to the tenth day of the illness.

Character of the eruption.—A few rose-coloured lenticular spots, confined to the abdomen and chest. They are slightly *papular* and non-persistent (disappearing for a moment on pressure). Their number varies considerably, but in most cases the spots are few. They begin to fade about forty-eight hours after their appearance, new ones arising, and being in their turn succeeded by another crop.

In some cases there is no eruption, and when there is, the abundance of the rash bears no relation to the severity of the disease.

In the second week of the disease and after, hæmorrhage may occur from the bowels. Death may result without discharge of blood from the anus, and in this case, after death, the intestines will be found filled with blood, or the hæmorrhage may occur at intervals, the patient becoming pallid and much prostrated. Perforation of the intestines is to be dreaded if the purging becomes frequent and persistent, tenderness and tympanites arising, and if vomiting and hiccough supervene.

Typhoid is usually confined to persons below forty-five years of age.

The rise of temperature is very gradual during the first week, the evening temperature being often two degrees higher than that in the morning, and the next morning being one degree less than that of the evening previous.

There is no increase of evening temperature at the end of the first week, but still that of the ~~morning~~ *evening* is greater than that of the ~~evening~~ *morning*.

There is only a slight remission in the second week.

There is often an increase of temperature at the

commencement of the third week, and if the case should improve, there is a very notable difference between the morning and evening temperature.

In a favourable case, the fall of the temperature is gradual.

A mild case may terminate in twenty-one days; but a severe one may last some weeks, about six weeks being the extreme time.

There is always disease in the lower part of the ileum.

The great danger is when the patient is recovering, either from hæmorrhage from the bowels or perforation of the intestines.

Recovery is always slow, and the digestive system remains feeble and irritable for some time.

Complications.—Bronchitis, pneumonia, and pleurisy are very common. Parotitis, followed by suppuration, sometimes occurs, but not so frequently as in typhus.

Sequelæ.—Hæmorrhage, peritonitis, and perforation are natural results of the disease.

Hæmorrhage may result from the intestinal ulcers eroding a small vessel.

The ulcers may extend through the intestinal coats and induce *Peritonitis*, which may become general.

Perforation takes place if the peritoneal coat becomes extremely thin.

Marasmus is exceedingly likely to follow, since the mesenteric glands are always extensively involved.

Causes.—*Predisposing.*—Youth; The autumn season; Conditions of life do not appear to exercise any remarkable influence.

Exciting.—Emanations from putrid and decayed animal matter. These may be conveyed by the air, or by water tainted with sewage, or by stagnant pools which have been the receptacle of dead animals and sewage.

Some attribute the disease to a *specific poison* contained in the *alvine secretions* of persons suffering from typhoid fever.

Enteric fever is prevalent all over the world ; much doubt exists as to its infectious nature, and it is not usually regarded as contagious.

Pathology.—Typhoid is no doubt due to a blood poison. The local manifestations of the disease are chiefly observed in the solitary and agminated glands (Peyer's patches) of the lower third of the ileum, near the ileo-cæcal valve. These normally obscure glands are first swollen and elevated, pale, soft and rounded at the margins. They rapidly become vascular, the swollen gland becomes abraded, and sloughing and ulceration soon succeed. A whole Peyer's patch may be coated with a discoloured apthous-looking slough. When the ulcer has advanced, or after the separation of the slough, the surface is rugged and granular. The edges of the ulcers are raised and hard.

Internally they are ragged with excavations, and externally they are smooth and rounded. As the base of the ulcer approaches the peritoneum, the inflammation of that membrane increases; when the ulcers are numerous, the patches become confluent, and the outer surface may be covered with plastic lymph. If this covering becomes the seat of ulceration, perforation must ensue, but it is often temporarily delayed by the adhesions of sloughy tissue within the membrane itself, or by the formation of solid lymph upon its external surface.

In cases of recovery, the ulcers heal, contract, cicatrise, and eventually form a depressed smooth surface, which is less vascular and thinner than the surrounding coat.

The mesenteric glands are always much swollen, and

more or less inflamed. The spleen is softened and enlarged, sometimes containing little yellowish white deposits, similar to those found in the diseased glands of the intestines.

The bile is thin and almost colourless.

Disinfection and Prophylaxis.—Drains should be cleared and flushed, and any offensive accumulations removed. Any tainted water should be filtered through charcoal, and boiled before use. The dejections of the patient should be mixed with disinfecting solutions.

Treatment.—The patient should be placed under the same hygienic conditions as have been mentioned in the treatment of typhus. The early constipation, which is sometimes a marked symptom, may be combated with castor oil, and acetate of ammonia and camphor mixture may be given. A few leeches may be applied to the abdomen if there be great heat and tenderness over this region, or a large warm poultice may be placed over the whole abdomen, and good results may attend the use of counter-irritants, as blisters, or acetum cantharidis, and warm turpentine. For regulating the secretions and checking inflammation of the intestinal glands, two or three grains of hydrargyrum cum creta, with as many of pulvis ipecacuanhæ compositus may be administered.

If the diarrhœa be profuse, chalk mixture may prove efficacious, combined with a few drops of tincture of opium, or pulvis kino compositus, or pulvis cretæ compositus cum opio may be given.

A very efficient remedy is the acetate of lead in one grain doses, or this drug may be given as an enema with solution of starch and tincture of opium.

For the first few days, the diet should consist of toast and water and weak beef tea. Wine should be cautiously administered as the disease advances, but if

the diarrhœa be copious and exhausting, stimulants may be freely exhibited. Great care must be exercised in the choice of aliments even after the worst symptoms have subsided, since the slightest dietetic error may cause a serious relapse. Solid food should not be given until the stools have become solid, and the temperature has remained normal for at least fourteen days.

TYPHUS FEVER CONTRASTED WITH TYPHOID FEVER.

Typhus fever, then, is distinguished by its very contagious nature, by the greater prevalence of cerebral symptoms, by the presence of the persistent dark mulberry rash, and by the absence of disease of Peyer's patches. It is recognised in its early stage without much difficulty. There is the rapid, rather full pulse at first, the brown tongue, great thirst, and more or less delirium. The bowels are usually confined, and after a few days there is the characteristic mulberry rash.

In *Typhus*, the temperature rises far more suddenly than in typhoid, and may vary from 102° to 107° Fahr. on the first day of the illness; it also pursues a totally different course to that of typhoid.

The *mortality* of typhus is higher than that of typhoid.

Typhoid fever, on the other hand, is characterised by its non-contagious nature, by the less definite cerebral symptoms, by the presence of the light rose-coloured non-persistent rash, by the blown condition of the abdomen, by the more or less severe diarrhœa, and by the existence of disease of Peyer's glands.

The early symptoms are by no means so well marked as in typhus, and are often difficult to recognise, the disease creeping on very insidiously. There is less tendency to delirium, the progress of the disease is less

rapid, the danger of collapse not so imminent, and the abdominal symptoms far more evident.

For the first three days of *Typhoid*, there is a steady increase of temperature, at the end of which period the temperature generally rises to 103° Fahr., and pursues a peculiar course as already described.

INTERMITTENT FEVER. AGUE.

Definition.—A fever due to marsh miasma, and essentially consisting of paroxysms which take place at regular intervals with perfect intermissions.

The *Intermission* is the period between the end of one paroxysm and the commencement of the next.

The *Interval* is the period occupied by one paroxysm and one intermission.

Symptoms.—The patient is sometimes attacked suddenly, but generally he presents symptoms resembling the advent of continued fever, and several days or weeks may elapse before the malady assumes a perfect form. It is then characterised by a paroxysm occurring at regular intervals, and consisting of the following

Stages.—1. The Cold. 2. The Hot. 3. The Sweating Stage.

The Cold Stage.—Languor and apathy, pallor, blueness of nails, ears, and lips; contracted features, retraction of the skin of whole body (cutis anserina, goose skin), violent shiverings, chattering of teeth, trembling of limbs, occasionally so great as to shake the bed upon which the patient lies; pains in head, loins, and back; oppression at pit of stomach, diminished secretions, urine limpid, pale, and scanty; the respiration short and anxious, the pulse small, rapid, and at times irregular; the temperature is below that of health. This combination of symptoms sometimes ends

in general convulsive shaking. Occasionally coma or apoplexy occurs. The average duration is from half to three-fourths of an hour.

The Hot Stage.—A gradual return of heat of body ; at first irregular, transient flushes, followed by steady, burning, dry heat, far exceeding the normal standard. There is now swelling of the skin, which is red, and pungent to the touch ; the eyes are injected, and the face is flushed : there are marked hyperæsthesia, and intense pain in the head ; the urine is scanty and high-coloured ; great thirst is present, and the pulse is hard, full, and rapid. There is occasionally delirium. The average duration is from three to eight hours.

The temperature may rise to 105° or 106° Fahr.

The Sweating Stage.—Perspiration at last breaks out upon the neck and face, soon becoming universal and equable, the temperature descending to the normal, and the pulse acquiring its usual character ; the respiration becomes tranquil and easy, and health is for a time restored. Jaundice, dysentery, convulsions, and petechial eruptions have been occasionally observed ; and in agueish districts, especially in persons who have suffered from the complaint, many diseases take on an intermittent type.

Ague was formerly very fatal, and at the present day, a form termed *Pernicious Intermittent Fever* exists at Smyrna and elsewhere ; it increases in severity to the third paroxysm, and often proves fatal.

Varieties.—1. *Quotidian* ; a paroxysm once in twenty-four hours. 2. *Tertian* ; a paroxysm once in forty-eight hours. 3. *Quartan* ; a paroxysm once in seventy-two hours ; also

Double Quotidian.—Two paroxysms every day.

Double Tertian.—A paroxysm every day, those of the alternate days exhibiting equal intensity and duration.

Triple Tertian.—Two paroxysms on one day, and one on the other.

Duplicated Tertian.—The paroxysms returning twice on each alternate day.

Double Quartan.—A paroxysm on the day following that of the regular quartan, a perfect intermission only occurring on the third day.

The Duplicated Quartan.—Two paroxysms occurring on the day of attack, with two days of intermission.

The Triple Quartan.—A slight paroxysm occurring on each of the usual days of intermission.

These forms and those having a longer interval, as five, six, seven, eight, nine, ten days, a month, or a year, are termed *Erratics*.

Period of Incubation.—The average duration is from ten to fourteen days.

Quotidian ague is most prevalent in the spring, and usually occurs in the morning, lasting as a rule for more than twelve hours.

Tertian is the most common form, occurring in the spring and autumn, beginning at noon, and lasting for upwards of eight hours.

Quartan is rare; more severe; occurring in the autumn, generally commencing in the afternoon, and lasting for about six hours. This has the longest cold stage, the tertian the longest hot stage.

These types are liable to change. The tertian and quartan may become quotidian, quotidian changing to another form and occasionally passing into continued fever.

Intermittent fever usually terminates in recovery unless the disease be of long standing, or the parox-

ysms be accompanied by delirium, or complicated with other diseases, as enlargement of the spleen and liver.

The quartan type is the most serious.

Sequelæ.—Chronic enlargement of liver and spleen, followed by induration, softening or suppuration of these organs; ascites and anasarca; fatal dysentery; apoplexy; remittent or continued fever; leucocythemia.

Causes. Predisposing.—Cold and exposure; debility; male sex; a previous attack.

Exciting.—Marsh miasma; the effluvia from decaying vegetable matter, or from certain moist soils independent apparently of vegetable decay.

The risk is much increased by exposure to the effluvia at night time.

Pathology.—During the cold stage the blood accumulates in the deep-seated large vessels; since this fluid leaves the superficial capillaries, the head, chest, and abdomen become congested. The liver and spleen may be affected, and, if the disease be protracted, may be hardened and enlarged, the latter forming the so-called ague-cake.

Prophylaxis.—The air of the early morning and of the evening should be avoided, as well as sleeping places near the ground. A situation should be chosen in the opposite direction to that of the wind blowing from the malarial source. Warm nourishing food should be given before labour, in malarious districts; also small doses of quinine, two or three times a day. Perfect drainage is most important.

Treatment. (a) During the Paroxysm:—

In the *Cold* stage, the patient should be placed in a warm bed, hot bottles should be applied to the feet, and friction to the back and limbs; warm diluents, diffusible stimulants, as ammonia, tea, weak wine and

water may be given, and warm, hot-air, or vapour baths may be employed.

In the *Hot* stage, cool air, cooling drinks, and sponging, with cold or warm water, may be substituted for the previous treatment.

In the *Sweating* stage, the patient must be kept clear of cold draughts of air, and kept quiet. After the fit, he should be washed with warm water, carefully dried, and returned to bed. Nourishing food should be administered, and if there is much exhaustion stimulating drinks, as warm brandy and water, or warm wine and water will be indicated.

(b) *During the Intermission* :—

Cinchona bark, quinine, and arsenic are justly considered specifics in the treatment of ague.

The sulphate of quinine may be given, either in pill, or in solution mixed with excess of acid, in doses of 5, 10, 20, or 30 grains daily; or as enema, or hypodermic injection. Arsenic may be exhibited as liquor arsenicalis, in doses of 5 minims, increased gradually to 10, or 20 minims, every four hours.

Emetics may be administered just before the fit, and benefit may be derived from tincture of opium before the cold fit, or during the hot stage.

The anti-periodic remedy will prove most effectual when given, as near as possible, to the paroxysm which has passed, and in sufficient dose to produce cinchonism indicated by buzzing in the ears (*tinnitus aurium*). 10 or 20 grains of quinine for an adult may be given, or smaller doses of five grains every two or three hours. The author has seen cases in which doses of 20 grains failed to alleviate the paroxysms, and in which one grain doses every hour for 24 hours, conferred complete relief for many weeks.

REMITTENT FEVER.

Definition.—A non-infectious fever, presenting exacerbations, varying in intensity and duration, but in which there is no complete intermission.

Symptoms.—Remittent fever is usually preceded by symptoms resembling those of ague, but coldness is much less marked. The head symptoms are severe; there is occasionally intense throbbing headache, and at times violent delirium. The bowels are confined and the urine scanty, and there is tenderness in the epigastric and right hypochondriac regions, accompanied by nausea and vomiting. The vomited matters may be yellowish or grass-green in colour, and coffee-ground vomit has been observed. The fæces are dark—often greenish and offensive—the tongue is dirty and brown, and the pyrexia considerable.

This form of fever is closely related to intermittent fever, but it is characterised by *remissions*, and not by intermissions, since the pyrexia does not entirely disappear.

It may commence with a chill, in which the temperature is raised generally 2° or 10° above the normal. The fever continues for 6, 8, 12, 18, 24, or 48 hours, and then notably subsides. The pulse falls, the skin is moist, and the patient may fall into a refreshing sleep. The temperature may fall to the normal. The duration of the remission is variable, and may last from 2 to 3 hours to 1 or 2 days.

A series of remissions may ensue, recurring in regular succession. During the remissions there is a marked abatement of the temperature of the body, but during the exacerbations, the temperature is notably increased.

Jaundice occurs in about 20 per cent. of the cases.

Duration.—From 5 to 6 days to 4 or 5 weeks.

The average duration is about a fortnight.

Simple remittent fever is distinguished from—

(a) Simple intermittent fever, by the recurrence of remissions in the place of intermissions, and by the fever becoming continuous.

(b) From typhoid, by the absence of the characteristic rash and of the abdominal symptoms, and by the presence of gastric symptoms, viz., tenderness over the epigastrium, nausea, and vomiting.

Remittent fever is only developed in malarious districts.

The *Prognosis* is, as a rule, good, and when a case proves fatal it is usually due to some complication.

A variety of this fever is known as **MALIGNANT, CONGESTIVE, or PERNICIOUS, REMITTENT FEVER**, and is so called from its being attended by symptoms of unusual gravity and danger.

Causes—Predisposing.—Youth, and all causes of debility.

Exciting.—Marsh miasma, and exhalations from low damp soils, especially during the summer and autumn seasons.

It is most common in hot climates.

Complications and Sequelæ.—Liver and spleen lesions. The liver may become softened, and of a bronze or chocolate-slate colour. The blood contains black granules and dark coloured cells. The spleen may become softened and enlarged, and blackened by dark pigment. Bronzing of the brain and spinal cord is often present. Diarrhœa, dysentery, and leucocythemia may follow.

Treatment.—The same as that of intermittent fever. Quinine and arsenic may be given during the remissions.

RELAPSING FEVER.

Definition.—A contagious fever lasting from 3 to 7 days, terminating abruptly, and returning after intervals of about a week, during which time fever symptoms have been entirely absent.

Symptoms.—The attack is abrupt, and there is usually no forming stage.

It commences with chill and rigors, the fever is high, the pulse rapid (120 or more), nausea and vomiting are frequent, the vomited matters being grass-green in colour, as in remittent fever, and sometimes coffee-ground vomiting has occurred. The bowels are usually confined.

Relapse is the great characteristic.

The first career of the fever is usually 5 to 7 days; an intermission then takes place, in which the patient is apparently entirely free from fever. The average duration of the intermission is 7 days. A second attack follows, presenting the same characters as the first, but in a milder degree, and lasting generally from 3 to 5 days. A third attack may ensue, but presenting still milder characters after a remission of variable duration, and 4 and 5 relapses have occasionally taken place.

On the 3rd, or 4th, or 5th day, jaundice occurs in a large percentage of cases. This symptom is sometimes slight and sometimes intense. The stools may be dark, and even black, and melæna is sometimes present.

After five or six days, sometimes later and sometimes earlier, profuse perspiration breaks out, bringing the febrile symptoms to an abrupt termination, and the patient feels as well as usual, but after the lapse of a week, or, perhaps, a fortnight, he suddenly relapses into the previous condition.

The *Prognosis* is usually favourable unless much jaundice is present or persistent diarrhœa supervenes.

Causes.—*Predisposing*—Overcrowding and destitu-

tion. All ages are liable to become affected, and both sexes in an equal degree.

Exciting.—*A Specific Poison*, said to be generated in the bodies of persons in a state of starvation, and readily communicable to others.

Sequelæ. — These are occasionally : Ophthalmia, erysipelas, dysentery, swelling of the parotid, submaxillary, and inguinal glands, and effusion into the joints. In females, menorrhagia and abortion are liable to occur.

Treatment.—This should be directed to the relief of the congestion of the internal organs. Vomiting should, for a time, be encouraged. Cholagogue purgatives, as blue pill or a little calomel, combined with Dover's powder, may be given. If much pain or tenderness be present in the hypochondria, a few leeches may be applied in these situations, or to the margins of the anus. Head-ache may be relieved by a stream of iced water, or by the ice bladder ; tenesmus may be treated by opium, enema, or suppository. In ordinary cases, quinine, and the mineral acids in full doses, should be persevered with for a time.

YELLOW FEVER. FEBRIS ICTERODES.

Description.—This is a form of remittent fever, accompanied by yellowness of the skin, with vomiting of black or dark brown fluid, and may assume in different epidemics the various types of continued, remittent, and intermittent fever.

A mild case may be difficult to recognise, but in advanced stages of a severe case the yellow skin and black vomit are ample manifestations. The tongue is said to have a pasty covering, with a red tip and border. Yellow fever is essentially a disease of tropical climates, and is never seen in England except when imported. The mortality of the severe cases is very great.

Causes.—Marsh miasma, and the decomposition of vegetable matters.

It most commonly occurs in swamps at the mouths of rivers, and in low-lying parts of crowded cities, and may be propagated by ships laden with vegetable produce, or which have been kept damp and filthy.

Sequelæ.—These may be organic diseases of the lungs, spleen, liver, and other internal viscera. Obstinate dysentery sometimes succeeds an attack.

Pathology.—On *post mortem* examination the mucous membrane of the stomach is found to be covered by red or dark black spots, and its cavity is filled with an inky fluid.

Treatment.—This must be directed towards combating the symptoms as they arise, and will consist in the administration of emetics, purgatives, and tonics according to circumstances.

THE ERUPTIVE FEVERS. EXANTHEMATA.

1. MORBILLI, RUBEOLA, or MEASLES.
2. SCARLATINA, or SCARLET FEVER.
3. VACCINIA, or COW-POX.
4. VARIOLA, or SMALL-POX.
5. VARICELLA, or CHICKEN-POX.

MORBILLI. RUBEOLA. THE MEASLES.

Definition.—An infectious and contagious fever, especially characterised by catarrhal symptoms, and by a peculiar eruption.

Varieties. — Rubeola vulgaris, simplex, or mitis.
2. Rubeola maligna. 3. Rubeola sine catarrho.

Causes.—*Predisposing.*—Infancy and childhood.

Measles may, however, occur at any age.

Exciting.—Specific contagion, to which, however, the susceptibility usually occurs only once in a lifetime.

Symptoms.—The preceding symptoms are coryza and catarrh, accompanied by general pyrexia. There is running at the eyes and nose, hoarseness, difficulty of breathing, frequent sneezing, nausea and vomiting, and furred tongue. Bleeding from the nose (epistaxis) is sometimes a prominent symptom, and in children the affection is often ushered in by convulsions. The early symptoms closely resemble an attack of influenza.

Period of Incubation.—From 10 to 14 days.

Day of Appearance of the Rash.—About the fourth day.

Character of the Rash.—An eruption of raised red spots, which coalesce to form brownish-red crescentic patches (compared to a shrimp's tail), appearing first on the face and neck (occupying from 36 to 48 hours in its full development), disappearing about the fifth or sixth day after its appearance, and followed by *slight branny desquamation* of the cuticle. The temperature on the first or second day of the eruption may rise to 106° or 109° Fahr.

Duration.—From 12 to 14 days.

Measles is usually a mild and often slight disease, but in a few instances it may be followed by serious sequelæ. The chief source of danger is the liability to complications, such as rheumatism, bronchitis, or pneumonia, and if these can be successfully combated, recovery is nearly certain.

In the Malignant form the eruption is dark purple, the pulse is rapid and feeble, the tongue brown, and the patient likely to sink from exhaustion.

Rubeola sine catarrho is a variety of measles in

which affections of the Schneiderian membrane, larynx, and bronchial tubes are wanting.

Sequelæ.—Pulmonary œdema, pneumonia, diphtheria, bronchitis, phthisis; diarrhœa, ophthalmia, otorrhœa and abscesses in the ear; inflammation, followed by supuration of the parotid, cervical and submaxillary glands; whooping-cough; stomatitis, and gangrene of the mouth.

Pathology.—*Post mortem* examination reveals little beyond inflammatory conditions of the internal organs, especially of the lungs and air passages.

Treatment.—The patient should be kept in bed in a well ventilated room free from draughts, at a temperature of about 70° Fahr. The diet should at first be low, consisting of gruel, milk and water, and beef-tea.

The evacuations should be passed into vessels containing carbolic acid, or some other disinfectant. The cough may be relieved by mild sedatives, and the febrile symptoms by diaphoretics and refrigerants. In fact, the main object is to make the patient as comfortable as possible. The body may be sponged from time to time, and complications encountered as they arise by appropriate remedies.

Convalescence will demand sea air, cod-liver oil, and tonics.

SCARLATINA. SCARLET FEVER.

Definition.—An infectious and contagious fever, accompanied by sore-throat, a peculiar scarlet rash, and terminated by desquamation of the skin.

Varieties.—1. Scarlatina simplex, or mitis.

2. Scarlatina anginosa, or severa.

3. Scarlatina maligna.

4. Scarlatina sine eruptione.

Causes.—Predisposing.—Infancy and childhood ; no age can, however, be said to be exempt.

Exciting.—Specific contagion or infection, conveyed by contact and by fomites.

Preceding Symptoms.—The preliminary symptoms are those of general fever accompanied by inflammation and soreness of the throat ; and, in proportion to the severity of the throat affection, so is the intensity and danger of the fever.

Chill and vomiting often precede ; and in children, diarrhoea, epistaxis, and convulsions are not uncommon.

Period of Incubation.—About four to six days.

Day of Appearance of the Rash.—Usually the second day.

Character of the Rash.—A number of minute papules, constituting patches of large size, or a general efflorescence of a vivid scarlet colour (compared to a boiled lobster) appearing in general, first upon the face and neck, and extending over the whole body in 24 or 36 hours.

The eruption generally declines about the fourth or fifth day after its appearance, and is followed by *copious white desquamation* of the skin, (especially the skin of the hands and feet, the nails being often shed).

The temperature rarely exceeds 105° Fahr., but it may be as high on the first day of the eruption.

The tongue is at first coated, but afterwards becomes clean and raw-looking, presenting either red papillæ on a white base (the white strawberry), or white papillæ on a red base (the red strawberry).

In SCARLATINA SIMPLEX, MITIS, OR MILD, the throat is simply inflamed, not ulcerated, and the fever is moderate.

IN SCARLATINA ANGINOSA, OR SEVERA, the throat is greatly inflamed, the tonsils sometimes exhibiting small ulcerative patches, the temperature is high, and the pulse rapid and full.

IN SCARLATINA MALIGNA, the eruption may be scarcely visible, the pulse feeble, rapid, and irregular; the tongue brown, the throat apt to slough, the cervical glands to enlarge and suppurate, and the danger to life is very great.

SCARLATINA SINE ERUPTIONE, or without rash, may be described as a form of scarlatina in which the throat symptoms and the fever are present, but in which the rash is so ill-defined as to be unrecognisable.

A short time ago many cases came under the author's notice at the Children's Hospital, Hackney, in whom no scarlatinal symptoms had been noticed, but the children were actually, at the time, desquamating.

Complications.—Bronchitis, pneumonia, acute rheumatism, endocarditis. Acute desquamative nephritis may result between the 18th and 21st day of the illness, followed by dropsical effusions, as anasarca, ascites, hydrothorax, or hydropericardium; the kidney affection is more likely to be developed in the mild cases, since the patients are less careful and therefore the risk of exposure to cold is greater.

Sequelæ.—These are more likely to occur after the anginose or malignant forms. They are the following:—

Swellings and pain in the larger joints, scrofulous affections, rhinorrhœa, otorrhœa, and deafness, suppuration of the cervical glands, ulcers of tongue, pharynx or epiglottis, diphtheria, ophthalmia, inflammations of internal viscera or their peritoneal coverings, mortification of face, of lower extremities, and of the pudenda in females.

Vaginitis, with muco-purulent discharges is not uncommon in female children, and it is highly important to recognise its origin, since it not unfrequently gives rise to unfounded suspicions.

Treatment.—This should be much the same as in measles.

Free ventilation should be ensured, and cooling drinks and light nourishment given.

The tepid bath and sponging will be advantageous.

The *wet sheet* is held in high esteem. The sheet is wetted with water at a temperature of 70° degrees Fahr. The patient having been stripped, is enveloped in the sheet, and covered closely with several blankets. A mixture of sulphuric acid, with syrup of poppies, or small doses of quinine, with the acid infusion of roses may be administered.

For the relief of the throat symptoms, in severe cases, chlorate of potash may be given, both as a gargle and internally.

Malignant cases will require stimulation by alcohol, ether, or carbonate of ammonia. Anti-septic gargles may be applied to the throat, as solutions of chlorinated soda, or of permanganate of potash, and the sulphurous acid spray.

During convalescence, cod-liver oil and tonics, especially the ferruginous, will be of service.

MEASLES CONTRASTED WITH SCARLET FEVER.

IN *Measles* the rash appears on the 4th day of the illness. The eruption is of a brownish-red colour, and arranged crescentically (shrimp's tail), being followed by slight branny desquamation of the skin. The accompanying symptoms are coryza and cough, and the fever is generally moderate.

In *Scarlatina* the rash appears on the 2nd day.

The eruption is of a vivid red or crimson colour (boiled lobster), and is succeeded by copious white desquamation of the skin. The accompanying symptoms are sore throat and strawberry tongue, and the fever is generally considerable.

VACCINIA. COW POX.

The Operation of Vaccination.—In order to perform vaccination properly, three or four punctures should be made near each other in either arm, or in both arms, near the insertion of the deltoid muscle.

The skin should be made tense, and a sharp lancet inserted obliquely downwards into the skin, so as to draw a trace of blood; care must be taken that the lancet is quite clean and free from grease, in order that the vaccine lymph may cling to it. If the lymph be taken from the arm of a child, the lancet must be first dipped into it, and then inserted into the punctures. When preserved on points, or slips of glass, the lymph should be first rendered moist by breathing on it, or by rubbing it with a drop or two of water, or glycerine.

The Areola.—When successfully performed, the eruption usually takes the following course:—

2nd Day.—Small spots, feeling hard, but under the microscope appearing vesicular.

3rd and 4th Day.—The spots larger and more evident.

5th Day.—Small clusters of pearly oval or circular vesicles corresponding to the punctures, and containing a very small quantity of transparent liquid.

8th Day.—The vesicle is perfect, and of its full size, the surface being depressed, and its margin elevated. In the evening of this day the network of vesicles

becomes surrounded by a circular rose-coloured areola, the skin being painful and tense for some distance around it: some slight feverishness now usually sets it.

9th and 10th Day.—Areola enlarges, and may be accompanied by extensive erythema of the arm, and occasionally, though rarely, by a lichenous rash spreading over the whole body.

11th Day.—The cluster of vesicles now, if it has not been opened, has burst; the areola begins to fade. The centre of the vesicles is coated by a brown scab, which falls off about the 20th day, leaving a deep indentation on the skin of a circular shape, presenting as many pits as the cluster contained vesicles.

If the above appearances are not presented, re-vaccination is necessary, since the vaccine disease has not been properly communicated.

Time for taking the Lymph.—From the 5th to the 8th day; it cannot be relied upon after this time.

Circumstances preventing proper communication.—Any chronic eruption on the arm; scarlatina, measles, or other skin disease; disordered bowels; the progress of the vesicle having been disturbed by friction, or by injury.

The vaccine disease in children may occasionally be followed by boils, pustules, and some skin eruptions, but in these cases it is probable the child's health was bad at the time of the operation.

Infants may be vaccinated any time after the 6th week, but the age of three months is preferable.

Vaccination should be repeated every seven years, until about the middle period of life. It is considered unnecessary so long as three well-marked excavated

scars are present, but in epidemics of small-pox this rule must be disregarded.

If the vaccine lymph be properly inserted, to a certain extent immunity is conferred from small-pox, and should this disease occur, it is greatly mitigated. During severe epidemics, when the contagion is at the height of its power, the protection is less effectual.

VARIOLA. SMALL-POX.

Definition.—An infectious and contagious disease, ushered in with febrile symptoms, and succeeded by an eruption passing successively through various forms of skin disease—viz., first *papulæ*, then *vesiculæ*, and finally *pustulæ* in about 8 days.

Varieties.—1. Variola Discreta. 2. Variola Confluens. 3. Variola Semi-confluens. 4. Variola Maligna, or Hæmorrhagica.

Causes.—A specific poison emanating from individuals suffering from the disease, or conveyed by fomites, or communicated by inoculation of the variolous matter.

Preceding Symptoms.—These are : Rigors usually more marked than in other eruptive fevers ; headache, nausea, vomiting, severe pain in the back, and epigastrium, general feverish symptoms, biliousness, thirst, heat of skin, frequent pulse, furred tongue, generally constipation, but occasionally, though rarely, diarrhœa, convulsions in children, and sometimes in adults, and occasionally delirium. The temperature may rise as high as 106° Fahr., but may sink to 100° Fahr. when the eruption appears.

Period of Incubation.—About ten to sixteen days.

Day of Appearance of the Rash.—About the third day.

Character of the Rash.—The eruption appears first on the face, neck, and wrists, as a number of *papules*, slightly elevated above the skin, and feeling like small shot under the fingers (occupying from one to three days in diffusing over the whole body). About the 5th day these papules become *vesicles*, which are *umbilicated*—*i.e.*, depressed in the centre, and surrounded by an inflamed areola. About the 7th or 8th day the vesicles become *pustules*.

About the 8th or 9th day matter begins to ooze from the edges of the pustules, and a decided increase of fever sets in (secondary fever), accompanied by a fresh rise of temperature.

This is the *Suppurative Stage*, or stage of *Maturation*, at which period the danger to life is the greatest.

About the 14th or 15th day scabs form and fall off, leaving pits in their places. Simultaneously with the eruption, deposit of lymph may occur upon the throat, tongue, and soft palate, forming round, whitish, or ashy spots, which are characteristic of the eruption on a mucous surface, and may be followed by inflammation and ulceration of those parts.

Although it is usual to describe the variolous eruption as passing through the three forms above mentioned, it must be understood that the actual forms of skin disease represented are in the following order—*viz.*, *maculæ* (spots), *papulæ* (pimples), *vesiculæ* (vesicles), *pustulæ* (pustules), and in the confluent form, *bullæ* (blisters).

VARIOLA DISCRETA is the term applied to the disease when the spots are separate,

VARIOLA CONFLUENS when the spots run together. In this latter form diffused redness of surface usually

precedes the appearance of the papules and vesicles. It is a far more severe form than the discrete.

VARIOLA SEMI-CONFLUENS is a form in which the coalescence of the spots takes place to a greater or less extent, but not over the whole or greater part of the body.

VARIOLA MALIGNA or HÆMORRHAGICA is characterised by great prostration, accompanied by delirium passing into coma, and preceded by hæmorrhages from the bowels, kidneys, or uterus.

Complications and Sequelæ.—Pharyngitis, laryngitis, oedema of the glottis, bronchitis, pneumonia, pleurisy, and pericarditis are apt to occur during the course of the disease. Boils and abscesses are frequent sequelæ. Ophthalmitis leading to blindness, and internal otitis terminating in deafness, have been observed. Hæmorrhage may occur, in different situations, giving rise to hæmaturia, epistaxis, and menorrhagia.

The mortality is very great in the confluent cases, but much less so in the discrete forms. Death sometimes takes place before the eruption is matured, from the severity of the small-pox virus.

Death may result from the intensity of the brain and throat symptoms, or from drainage of the system by the excessive amount of the purulent eruption, or from exhausting diarrhœa.

Pathology.—In variola there is an inflammation of the papillæ of the skin. An exudation takes place from the papillæ into the rete mucosum, by which means the layers of the latter become separated. After suppuration, if the rete mucosum is alone affected no scar results, but when the papillæ become so infiltrated by newly-formed cells that their blood-vessels are com-

pressed, then sloughing takes place, the dead parts are thrown off, and after healing occurs scars remain.

Treatment.—This embraces both general and local measures.

The general treatment is the same as for the continued fevers. During the invasion the intensity of the fever may be diminished by the use of cold drinks, iced-water, carbonated water, lemonade, by refrigerants and cold or tepid sponging of the body. Remedies may be given to relieve nausea and vomiting and other symptoms as they arise. During the suppurative stage alimentation and supporting measures are very important.

The local treatment consists in preventing the occurrence of pitting of the skin, and is termed *Ectrotic*, signifying causing to miscarry. The measures employed are the following :

1. Evacuation of the vesicles by a fine needle.
2. Evacuation of the vesicles and cauterisation by a fine point of nitrate of silver.
3. Application of tincture of iodine by means of a brush during the papular stage of the eruption.
4. Exclusion of air and light by a plaster of some kind.
5. Application of prepared chalk and subnitrate of bismuth in equal parts, often smearing the surface with sweet oil.
6. Olive oil and carbolic acid (1 in 40) are frequently employed.
7. Pork lard melted and freely applied.

VARIOLOID DISEASE. MODIFIED SMALL-POX.

By this term is implied an attack of small-pox modified by vaccination. This operation, even when properly performed, does not always ensure protection against small-pox, but usually modifies the disease materially. The primary fever is generally slight, and lasts only for three or four days. The eruption is usually much less abundant, in fact, in some cases the eruption may be limited to a single pock, the course of the eruption may be shortened, and maturation may be completed in five or six days. Constantly the eruption aborts to a greater or less extent. It may be arrested at the vesicular or even the papular period. The secondary fever and its perils may be considerably diminished, as well as the disfigurement of the skin. Even when the eruption becomes pustular the course of the disease is more rapid, the pustule drying up on the sixth or seventh day. The pustules are usually small, and are not umbilicated; there is either no pitting or this is very slight. The treatment is the same as that of small-pox, but seldom any except hygienic measures are necessary.

VARICELLA. CHICKEN-POX.

Definition.—An infectious and contagious disease, generally ushered in by slight fever symptoms, and succeeded by an eruption which usually runs its course in about five days.

Symptoms.—Varicella is a mild and insignificant affection as regards distressing symptoms and danger. As a rule it is only observed in children, although it is occasionally seen in adults. A second attack is never met with.

Period of Incubation.—About four to fifteen days.

Preceding Symptoms.—Slight fever, headache and cough.

Day of appearance of the Rash.—On the first or second day of the illness.

Varieties.—(1) *Varicella lentiformis* or *lenticularis*, in which the vesicles are about the size of split peas, and flattened at their tops.

(2) *Varicella coniformis*, or *conoides*, or swine-pox, in which the vesicles are of a conoidal form.

(3) *Varicella globularis*, or *globata*—the vesicles unusually large and globular.

At first there are only a few spots, but fresh crops appear in considerable numbers during four or five nights, beginning as bright red spots, which in a few hours become vesicular, clear fluid collecting under the epidermis. There is no inflammatory areola nor umbilication. The vesicles dry up from the third to the fifth day. The disease is not usually followed by discolouration or pitting of the skin, but occasionally distinct pits, round, smooth, and shining, are observed. There may be considerable itching, and sometimes a peculiar faint smell attends the eruption.

The *Treatment* must consist in keeping the patient in bed, administering mild diet, and keeping the bowels free. Children should be prevented from scratching. If catarrh should be present, measures must be directed to this complication. During convalescence quinine may be given.

VARIOLOID DISEASE CONTRASTED WITH VARICELLA.

The stage of invasion in varioloid disease is of somewhat longer duration than in Varicella.

The shortness of this stage in varicella is characteristic.

The constitutional symptoms in varioloid are often marked.

In varicella these symptoms are remarkable for their mildness.

In varioloid the vesicles are preceded by papules.

In varicella there is a characteristic *vesicular* appearance of the eruption from the commencement.

In varioloid the eruption appears especially on the face.

In varicella it is observed first on the body, and is usually more abundant elsewhere than on the face; umbilication of the vesicles is generally to be found in more or less of the varioloid vesicles. In varicella this condition is absent.

In varioloid disease the duration of the eruptive stage is greater, as a rule, than in varicella.

DISEASES OF THE SKIN.

THE VEGETABLE PARASITES

Are three in number, viz.: *Achorion Schœnleinii*, *Trichophyton*, *Microsporon Furfur*.

1. *Achorion Schœnleinii*.—Consists of a number of vegetable cells or spores mixed with a quantity of granular matter. The spores are round or oval, $\frac{1}{3000}$ th of an inch in diameter, have a slight constriction in their centre, and are mixed with a number of branched tubes, some filled with granular matter and some empty, and which vary from $\frac{1}{4000}$ th to $\frac{1}{5000}$ th of an inch in diameter. This parasite is seen in the substance of the hair itself, and occurs in Favus.

2. *Trichophyton*.—Differs chiefly from the above

parasite in the fact of the number of its tubes being smaller, and the quantity of its spores greater. The spores are round or oval, and are about $\frac{1}{7000}$ th of an inch in diameter, sometimes united in the form of chains, but for the most part isolated. *Trichophyton* occurs in *Tinea Tonsurans*, *Tinea circinata*, and is said by some to be present in *Sycosis*.

3. Microsporon Furfur.—In this the spores are of large size, collected in clusters, like bunches of grapes, mixed with numerous branched tubes; it is found in the patches of skin which are the seat of *Pityriasis versicolor*.

THE ANIMAL PARASITES.

Pediculi. Lice.—Of these there are three varieties, viz.:

Pediculus capitis, *pediculus pubis*, *pediculus corporis*. *Pediculus capitis* is frequently associated with head eruptions in children, and the *pediculus corporis* is a common cause of the prurigo of old persons.

Acarus Scabiei.—The Itch Insect.—The cause of the disease known as the itch. Furrows or cuniculi may be detected in the skin, formed by these insects. At the extremity of each furrow a minute whitish elevation may be observed, which is in reality a thin epidermal layer covering the insect itself. By raising this layer with a penknife the *acarus* and its ova may be obtained.

When fully grown the *acarus* has eight legs attached to a round body, and has a projecting head. The female is larger than the male, and varies from $\frac{1}{7}$ th to $\frac{1}{4}$ th of a line in length. The eggs are about $\frac{1}{25}$ th of a line broad and $\frac{1}{11}$ th of a line long.

TABULAR ARRANGEMENT OF THE SKIN DISEASES.

DRY.	PAPULÆ. PIMPLES.		
	Lichen.	Prurigo.	Scabies.
	SQUAMÆ. SCALES.		
	Psoriasis.	Ichthyosis.	Pityriasis.
	EXANTHEMATA. RASHES.		
MOIST.	Roseola.	Erythema.	Urticaria.
	The Eruptive Fevers.		
	VESICULÆ. VESICLES. BLADDERS.		
	Eczema.	Herpes.	Sudamina. Miliaria. Scabies.
	Pemphigus.		
	PUSTULÆ. PUSTULES.		
	Impetigo.	Ecthyma.	Acne. Rupia.
	TUBERCULÆ. TUBERCLES.		
	Acne.	Molluscum.	Lupus. Keloid. Elephantiasis.
	Framboesia.		

PAPULÆ.

Definition.—Papulæ, or pimples, are small, firm, pointed elevations of the skin, generally ending in scurf, and rarely ulcerating at the summit.

1. Lichen.—A number of minute pimples, usually of a red colour, sometimes grouped together, at other times separate, accompanied by itching or tingling. The parts in which the skin is thickest are generally affected, viz., the exterior of the leg and thigh, the back of the hands, and the forearm. The affection may commence with slight fever, and disappear in a week or ten days; but its course is generally more chronic.

Varieties.—The chief are the following, viz. :

Lichen Circumscriptus, in which there are clusters of pimples of an irregular circular form.

Lichen Agrius, in which the irritation of the skin is intense.

Lichen Strophulus, a form occurring in children, and often depending upon dentition or digestive troubles.

Treatment.—The severe itching may be relieved by baths, lotions, and sedative ointments. A wash of carbonate of potash may be employed, and ointments of iodine and periodide of mercury (100 grains to 1 ounce of lard), and iodine and sulphur vapour. Great cleanliness is necessary. In severe cases low diet, brisk purgatives, and liquor arsenicalis may be required.

2. Prurigo.—Scattered, somewhat flattened papulæ, in colour hardly differing from the skin surrounding them, but in general surmounted by a small black scab produced by scratching. The skin is usually dirty-looking, thickened, and flabby. There is a great amount

of itching which is intensified by warmth. The outer parts of the limbs, chest, back, neck, genitals and anus, are the parts chiefly selected by prurigo.

Few papulæ may be present at the onset of the complaint, of which at that time the itching is the chief symptom.

Varieties.—The chief are the following, viz. :

Prurigo Mitis.—The itching comparatively slight.

Prurigo Formicans.—The itching very great, and accompanied by pricking and stinging.

Prurigo Senilis, occurring in old persons, and stated by some authors to be always occasioned by pediculi.

Also named from the locality affected ; viz.—

Prurigo Podicis, attacking the anus and its vicinity.

Prurigo Pudendi ; Prurigo scroti ; of which the male or female genitals respectively are the seat.

Treatment.—All sources of irritation must be removed from the skin, such as pediculi, or flannel under-garments ; great cleanliness must be observed, and alkaline or tar baths may be given. Internally, cod-liver oil, iron, and arsenic are indicated. When lice are the cause, the best remedy is carbolic oil (1-8) or carbolic lotion (1-20). The clothing should be exposed to a dry heat at the temperature of 250° Fahr.

SQUAMÆ.

Definition.—Squamæ, or scales, are opaque, hard layers of cuticle, surmounting papules or inflamed surfaces, and continually being detached and renewed.

1. Psoriasis.—Elevated patches of white dry epidermis. The cutis below is slightly raised, of a red colour, and

somewhat thickened. The itching is slight. To those cases in which the eruption has assumed a circular or oval form, the term **Lepra** was at one time applied, but it is seldom employed in the present day.

Varieties.—The chief are the following :

Psoriasis Guttata.—Spots like drops of mortar.

Psoriasis Diffusa.—Involving a large portion of skin.

Psoriasis Capitis.—Attacking the scalp.

Psoriasis Palmaris.—Affecting the palm of the hand.

Psoriasis Plantaris.—Attacking the sole of foot. The general seat of the complaint is immediately below the knee or elbow ; when the sole of the foot or the palm of the hand is alone affected, the disease is nearly always due to syphilis.

Treatment.—In the non-syphilitic or non-specific forms arsenical preparations are very valuable. In the syphilitic or specific forms the mercurial and iodine preparations must be given. Locally, the scales should be removed by brisk rubbing with soft soap, with the subsequent application of tar ointment, zinc ointment, or liquor carbonis detergens. An ointment of chrysophanic acid is now held in high estimation. Glycerine and rose-water are often serviceable.

2. Ichthyosis.—The entire skin of the affected part is covered by a thick, hard, dry, nearly horny epidermis, irregularly elevated, and either raised in prominences or exhibiting the natural skin divisions. Upon removing the cuticle, no redness of the skin beneath is observed ; there is no pain or itching. The

name is derived from the similitude of the skin to that of a fish ; it is often hereditary, and sometimes congenital. When local, the legs and the forearms near the elbows are chiefly affected ; when general, the palms of hands, the soles of the feet and the axilla are usually exempt.

Treatment.—An incurable disease. The vapour bath may be used, followed by the vapours of iodine and sulphur. Inunction of glycerine and water or almond oil may be employed. Internally, arsenical preparations and cod-liver oil may be exhibited.

3. Pityriasis.—The parts affected are covered by an increased formation of fine epidermal scales, which are continually being rubbed off in the form of a fine powder. There is no thickening of the cutis, and a considerable amount of itching is generally present. The name is derived from the bran-like nature of the scales.

The varieties are named according to the part affected ; thus,

Pityriasis Capitis.—Affects the head, etc.

Pityriasis Versicolor.—This depends upon a vegetable growth (*microsporon furfur*), and is characterised by a yellow-brown eruption of irregular patches from which friction will easily remove the scales, and in which the microscope will reveal the vegetable growth. It is usually seen upon the trunk of the body, and is rarely accompanied by much itching.

Treatment.—Great cleanliness, tepid baths, alterative and tonic medicines, lead and alkaline lotions, lead and zinc ointments, ointment of nitrate of mercury, and sulphur baths. The itching may be relieved by lotions containing hydrocyanic acid.

EXANTHEMATA.

Definition.—Exanthemata, or rashes, consist of red patches, superficial, of various sizes, diffused or circumscribed, disappearing on pressure, and ending in resolution and desquamation.

1. Roseola.—An eruption of irregularly-shaped patches of a red rose-colour, slightly if at all elevated; slight fever is sometimes present, and also tingling or itching. The rash may affect the whole body, or be limited to some part. The varieties are—

Symptomatic.	Idiopathic.
Roseola Variolosa.	Roseola Infantilis, in children.
„ Vaccina.	Roseola Æstiva, in the summer.
„ Rheumatica.	Roseola Autumnalis, of the autumn.
„ Arthritica.	Roseola Annulata—The eruption ring-shaped.
„ Choleraica.	

Treatment.—Laxatives, tonics or alteratives will be necessary, according to the condition of the system at the period of the roseoloid eruption.

2. Erythema.—Patches of skin of a red colour, which disappear under pressure. There is sometimes slight elevation of the parts, accompanied by heat and itching. There is no fever.

Varieties.—The chief are the following :

Erythema Læve.—Occurring on the legs of dropsical persons.

Erythema Fugax.—The patches suddenly appearing and disappearing.

Erythema Intertrigo.—Produced by the friction of adjacent parts.

Erythema Nodosum.—Raised patches, never on the body, but chiefly over the arms and shin-bones.

Treatment.—When symptomatic, the treatment must be directed to the primary disease ; when idiopathic, it either speedily disappears of itself, or yields to mild aperients, the warm bath and spirit lotions. Intertrigo may require lotio carbonis detergens, or some soothing dusting powder, such as powdered camphor, oxide of zinc and starch, in the proportion of 1, 8, 16. Erythema Nodosum will be best treated by rest and tonics, as quinine and bark. Greasy applications generally do more harm than good in all varieties of Erythema.

3. Urticaria.—(**Nettle-rash.**)—Round or oval prominent, elongated patches of skin, having the appearance of being produced by nettles. They appear and disappear suddenly, are attended by intense itching and heat, and may often be excited by scratching. Indigestion frequently causes nettle rash, and in some persons particular articles of diet will produce it.

Treatment.—If resulting from irritating food, an emetic should be given, followed by a mild aperient. Chronic cases should be treated with warm, or vapour, sulphur, or alkaline baths, and with alteratives, aperients, and strictly regulated diet. Liquor arsenicalis may be employed, and the smarting will derive benefit from lotions of acetate of lead, prussic acid, and perchloride of mercury.

VESICULÆ.

Definition.—Vesiculæ, or vesicles, are small, rounded, pointed elevations of the cuticle, inclosing a colourless transparent or pearly opaque lymph. After breaking and discharging their contents they are followed by scurf, scales, or open sores. Occasionally the contents are absorbed.

Bullæ, or blebs, are vesicles of large size, resembling blisters.

1. Eczema.—Irregular shaped patches of minute vesicles about the size of a pin's head, which on breaking discharge a fluid that stiffens linen and dries into thin yellow crusts. There are pain, smarting or itching. It is a very common affection of the skin, is often hereditary, and is sometimes associated with gastric affections and rheumatism.

Varieties.—The chief are the following, viz. :

Eczema Simplex.—Accompanied by moderate itching and inflammation.

Eczema Rubrum.—More inflammatory. Often seen on legs affected by varicose veins.

Eczema Impetiginodes.—In which the eczema is combined with impetigo.

It is also called from the part affected, viz., *eczema capitis*, etc.

Treatment.—Tingling and smarting may be alleviated by poppyhead fomentations, or by a lotion consisting of three grains of cyanide of potassium and two grains of cyanide of mercury to an ounce of distilled water. Alkaline lotions and water dressing, such as local baths of bran or poultices of potato flour, are often serviceable. The diet should be simple; the mineral acids may be given internally, and arsenical preparations are indicated. In the eczema of infants, small doses of grey powder or of calomel should be relied upon, followed by small doses of liquor arsenicalis; or alterative powders, containing rhubarb, grey powder and bicarbonate of soda, may be given. The scabs should be well oiled or poulticed and cleared off, the parts being then rubbed with some emollient application. Local measures should be avoided if much heat and swelling are present.

2. Herpes.—A number of large vesicles, grouped to-

gether upon an inflamed base ; attended by heat and smarting, and sometimes by severe neuralgic pain.

May commence as a red localised patch, upon which vesicles soon form. There is no starchy oozing and no reproduction of vesicles. In some cases the eruption is followed—sometimes preceded—by severe neuralgic pains. It is usually seated over the course of a sensory nerve, such as the frontal, or one of the dorsal nerves.

Varieties.—The chief are the following, viz. :

a. **A Circinate group**, in which the eruption is more or less circular ; and

b. **A Phlyctenoid group**, in which the eruption presents no regularity.

Herpes Zoster or Zona (Shingles) ; the patches of spots appear like a band surrounding half the body, or spreading down one limb. A form known as **Herpes Preputialis** has been sometimes mistaken for syphilis.

Treatment.—The diet should be carefully regulated and mild aperients given. Locally prussic acid lotion may be used, or the part may be dusted with oxide of zinc and starch in the proportions of 1 to 3. In **Herpes Zoster**, where the pain is severe, morphia may be injected in the course of the sensitive nerve, or aconite liniment may be rubbed over the painful part.

3. Miliaria.—Scattered vesicles resembling little drops of water, slightly inflamed, unattended by itching and irritation, and in the course of a few days drying up. When unattended by redness the vesicles are termed **Sudamina**, and these generally occur in diseases accompanied by sweating.

Treatment.—The sweating and heat must be diminished, by the cautious application of cold, by mild saline aperients, and the mineral acids, especially the diluted sulphuric acid, combined with the acid infusion of roses, or with quinine or decoction of bark. The strength of the patient should be supported by ammonia and wine and good food. The skin may be washed with a weak solution of chloride of lime.

4. Scabies.—(The Itch.)—An eruption consisting of vesicles intermingled with papules, and occasionally with pustules. It is usually found upon those situations in which the skin is thin, and is accompanied by intense itching, which is much aggravated when the body is warm. The itch insect, *acarus scabiei*, or some of its ova, can be detected.

The chief seats of scabies are the spaces between the fingers, the inner sides of the wrists or thighs; the nipple in the female, and penis in the male.

Treatment.—Sulphur ointment, or an ointment of carbonate of potash and sulphur, sulphur baths, olive oil and sulphide of calcium. The sulphur ointment should be rubbed in for a few nights in succession, and then washed off by a warm bath. The clothes should be subjected to the fumes of sulphurous acid gas or they should be destroyed.

5. Pemphigus or Pompholyx.—An eruption of numerous small bullæ or blisters upon a reddened surface, and containing a transparent or yellowish-coloured fluid, leaving after evacuation a thin crust, sometimes accompanied by itching and pain.

Treatment.—Tonics, as quinine and iron; the blebs may be punctured, and fomentations or warm poultices may be applied to the inflamed spots if there be much pain.

PUSTULÆ.

Definition.—Pustulæ, or pustules, are circumscribed elevations of the cuticle, inclosing pus, and terminating in thick scabs or crusts.

1. Impetigo.—An eruption of slightly raised small pustules, frequently in patches, the pus drying up into greenish-yellow irregular crusts. There is usually itching and heat, but no scar is left after healing. Impetigo is by some writers regarded as a pustular form of the vesicular disease eczema, and a form of skin disease is not unfrequently met with in which the characters of both are presented, and which is therefore termed :

Impetiginous Eczema, or Eczema Impetiginodes.

Treatment. — Tepid baths, gentle aperients, and emollient applications. Itching may be relieved by prussic acid lotion, containing half an ounce of prussic acid and the same amount of alcohol to the eight ounces of water. When the affection becomes chronic alkaline lotions may be used, and the ointment of iodide of sulphur ; liquor arsenicalis also should not be omitted.

2. Ecthyma.—Larger round and isolated pustules, seated on an inflamed hardened base, the pus drying up into thick dark-brown scabs, which leave slight scars after falling off. Tingling, itching, and heat are frequently present.

This is generally observed upon the shoulders, back, and extremities.

Treatment. — Gentle aperients and alteratives, mineral tonics, cleanliness, and sea-bathing ; emollient applications ; when the disease becomes chronic, stimulating ointments, or nitrate of silver, or diluted hydrochloric or nitric acid.

3. Acne.—Little, hard, isolated, and conical projections of the skin, some red, tender, and hard, others covered

with a scab, or suppurating at the top. It is rarely seen before puberty, and is usually confined to the face, shoulders, and neck.

Varieties.—The chief are the following, viz. :

Acne Simplex.—Small black specks with a slight inflammatory areola.

Acne Rosacea.—Patches of redness, often associated with venous enlargement.

Acne Indurata.—Red hardened elevations, the tops suppurating.

Treatment.—Restricted diet, avoiding stimulating liquors; gentle aperients. Locally, spirit lotions, or lotions of acetate of lead, ointment of iodide of sulphur, or a paste of sulphur and milk. Diluted acids or nitrate of silver, or the acid nitrate of mercury cautiously applied to the eruption with a glass brush.

4. Rupia.—Flattened blisters, containing first clear, afterwards purulent or bloody fluid, eventually each blister surmounted by a dark coloured, hardened scab, frequently of a conical shape, beneath which is an unhealthy ulceration of greater or less depth. The chief seats are the shoulders, loins, and lower extremities, and the disease nearly always results from syphilis.

Varieties.—The chief are the following :

Rupia Simplex.—With thin crusts.

Rupia Prominens.—Large bullæ, ulcerations deep, and crusts prominent and thick.

Treatment.—Generous diet, wine and tonics. When non-syphilitic, liquor arsenicalis may be given. When syphilitic, iodide of potassium or perchloride of mercury are indicated. Locally, poultices, antiseptics, and dusting with iodoform may be employed.

TUBERCULÆ.

Definition.—Tuberculæ, or tubercles, are small, hard, persistent solid tumours, larger than papulæ, with or without an inflamed base, imbedded in the skin, and ending in resolution, partial suppuration, or destructive ulceration.

1. Molluscum.—Numerous hard circular tumours, which vary in size from a pea to a hazelnut, their summits usually exhibiting a slight depression or black spot. Each tumour is occasionally attached to the skin by a pedicle.

Varieties.—The chief are the following, viz. :

Molluscum Fibrosum, Simplex, or Congenitale, in which there are numerous tumours of various size scattered over the whole body, their surfaces dotted with black specks, and communicating a quasi-fluctuation to the fingers. They show no tendency to spontaneous cure.

Molluscum Pediculatum, in connection with the above, or occurring independently; tumours of variable size may be met with which consist of portions of skin hanging by slender pedicles.

Molluscum Contagiosum.—The tumours are circular, of the size of peas, presenting a marked central depression. They are most common on the exposed parts of children in a family, and may appear on the face of the infant and breast of its nurse simultaneously. Upon cutting into and squeezing any of the small tumours a gland-like lobulated substance may be seen. In this form there is a tendency to spontaneous cure.

Treatment.—Small doses of liquor arsenicalis may be given, and the parts bathed with a lotion of sulphate of copper.

2. Lupus.—Usually seen on the face.

Varieties.—The chief are the following, viz. :

Lupus Erythematosus.—Irregular red patches with a glistening smooth surface, terminating in scars, but not ulcerating.

Lupus Exedens.—Leading to scars and destructive ulcerations.

Lupus Non-Exedens.—Terminating in scars, but not ulcerating.

Treatment.—Where ulceration has not taken place : friction with stimulating ointments, containing iodide of mercury, sulphur and ammonia, or tincture of iodine, or equal parts of glycerine and carbolic acid.

When ulceration has taken place : caustics must be employed, such as caustic potash, nitrate of silver, chloride of zinc and antimony, iodide and nitrate of mercury, and arsenical preparations. Tonics, cod-liver oil, in combination with iodide of iron or with vegetable bitters and acids, should always be given, and with a syphilitic history iodide of potassium must be added.

3. Keloid.—A rare disease ; appears as indolent hard tubercles, varying in size from a few lines to a few inches, sometimes occurring in groups, with intervals of healthy skin between them, but generally isolated. In shape they are square, angular, or irregularly oval, their colour red or rose, depressed in the centre, and surmounted with a thin layer of wrinkled cuticle. The name is said to be derived from the remote resemblance of the affection to a tortoise or crab. The disease proceeds very slowly, and is not dangerous ; the tumours are usually chronic, rarely ulcerate, but sometimes spontaneously disappear, leaving a white scar.

Treatment.—Plasters containing iodine and opium, and alkaline baths, or the local application of the vapours of iodine, mercury, or sulphur.

4. Elephantiasis.—At first usually exhibits erythematous patches, upon which soft livid tumours appear, varying in size and shape. The skin and tissues beneath are œdematous and hypertrophied, the affected parts eventually acquiring an enormous size. The sensibility of the skin is at first heightened, but it subsequently diminishes. In extreme cases the tubercles become inflamed and ulcerated, and emit a fetid bloody discharge, concreting into black scabs. May occur on any part of the body, but is usually observed on the face and the lower extremities. The causes are syphilis, hereditary taint, or the scrofulous diathesis, and certain climates. It is stated that elephantiasis is closely connected with a varicose state of the lymphatic system.

Treatment.—Internally; cantharides or arsenical preparations, combined with tonic infusions.

Externally; stimulating applications.

Change of climate sometimes confers benefit.

5. Framboesia.—Very rare among the white population; is chiefly prevalent in the climate of the West Indies and that of parts of Africa and America. The disease begins in the form of clusters of small dark red spots like flea-bites, varying in size and shape, and upon these spots are developed papulæ, degenerating into indolent vegetations, firm, somewhat inflamed, and covered by dry thin scales, and similar, when occurring in circular groups, to mulberries or raspberries. Occasionally they are the seat of ulceration, and of a bloody or yellow discharge, concreting into scabs. The surrounding skin is usually hardened.

Treatment. — Stimulating ointments, as those of arsenic or of the pernitrate or periodide of mercury. Caustic, or the actual cautery. Internally, tonics and alteratives, small doses of arsenical and mercurial preparations. Warm and vapour baths may be advantageously employed.

DISEASES OF THE SCALP AND HAIR.

1. Tinea Favosa.—Favus.—The part affected exhibits numerous dry, circular yellow crusts, with a central depression, or an irregular mass of dry yellow crust. The hairs are dry-looking and dull, can be readily pulled out, and show under the microscope the **Achorion Schönleinii**. There is some amount of itching, and a peculiar mouse-like mouldy smell may be observed. The affection begins in the form of small yellow specks enveloping the roots of the hair ; after continuing for some time the hair-follicles are destroyed, and patches of baldness appear.

The chief varieties are :

Favus Pilaris.—Chiefly affecting the hair.

Favus Epidermidis.—Attacking other parts of the skin.

Favus Unguium.—Attacking the nails.

2. Tinea Tonsurans.—This affection exhibits itself in the form of circular patches on the scalp, from which the dry dull hair has been broken off, so that it projects only slightly above the surface, this being covered by fine white powdery scales. There is usually some itching at the beginning of the eruption. It is usually

limited to childhood. Under the microscope the scurf and hair show the **Trichophyton**,

Varieties.—The chief are the following :

Tinea Tonsurans.—Ringworm of the scalp.

Tinea Circinata or **Herpes Circinatus.**—Ringworm of the extremities or trunk.

Tinea Sycosis.—Ringworm of the beard, commonly accompanied by tubercles and pustules.

3. Alopecia Areata or **Porrigio Decalvans.**—Oval or round patches of baldness, the hair being entirely removed or replaced by fine downy hairs. The skin is quite white, and there is little or no irritation. The skin is at first somewhat reddened and wrinkled. The affection is generally confined to the scalp, but may be seen in the eyebrows, genitals, or beard. Some authorities consider the affection traceable to a vegetable parasite, the **Microsporon Audouini**, but this is doubted by others, who attribute it to a diseased condition of the nervous system.

Treatment.—The general treatment in tinea of all forms is to observe great cleanliness, and good conditions of hygiene, to administer nourishing food, syrups of the iodide and phosphate of iron and cod liver oil. The local treatment should consist in poultices to remove scabs, to cut the hair very close with sharp scissors, and well wash the head, subsequently applying some parasiticide, such as sulphurous acid, lotio carbonis detergens or strong tincture of iodine. The iodide of sulphur ointment is often very useful. Strong nitrate of silver is occasionally necessary, and the hyposulphite of soda lotion (sixty grains to an ounce of water), is held in much repute by some authorities.

INTESTINAL WORMS.—ENTOZOA VERMINATIO.

Symptoms.—These vary according to the part of the intestinal canal that the worm occupies, and with the number of the worms, which is often considerable, although in some cases only one worm has been present.

There is a sensation of uneasiness in the abdomen, sometimes amounting to actual pain of a gnawing or biting character. The bowels are usually irregular, the motions often containing mucus, streaked or tinged with blood. The belly is swollen and hard, there is tenesmus and sometimes dysuria. The appetite is capricious, often ravenous. The tongue is furred and the breath foetid. Itching of the nose and anus is frequently very troublesome, causing picking and scratching of those parts. Grinding of the teeth frequently takes place during sleep, and bleeding from the nose and increased flow of saliva are occasionally observed. Convulsions are sometimes occasioned in young children, and the presence of worms may also occasion chorea, giddiness, headache, disturbed vision, dry cough, severe hysterical symptoms and violent palpitation.

The author has seen a case presenting all the symptoms of acute meningitis speedily recover after the expulsion of a large ball of thread worms.

Occasionally the general health remains unaffected.

No sign can be considered diagnostic until the discovery of the worm or worms in the motions.

Worms sometimes have been vomited, and they occasionally have made their way into the gall-bladder, and set up hepatic abscess.

Varieties.—The chief are the following, viz. :

1. ASCARIS LUMBRICOÏDES.—THE ROUND WORM.

Habitat.—The small intestines.

Description. — This worm varies in length from half-a-foot to a foot. The head is terminated by three papillæ, which are capable of spreading out into a broad circular sucker during the act of suction. The posterior extremity of the male is bent round like a hook, the corresponding part of the female being pointed and comparatively slender. The fecundity of this entozoon is remarkable; the body of the mature female has been calculated to contain sixty-four millions of eggs at a given time.

Causes.—Childhood and youth; cachexia; the ova probably find their way into the alimentary canal by unripe fruits and vegetables, or by impure water.

Treatment.—This must consist of irritant purgatives, of which one of the best is the pulvis scammonii compositus, either given alone or combined with calomel. Santonine is considered a specific against this worm, but it must be followed by some purgative to remove it and the worm, since the drug itself is not purgative. Enemata of strong infusions of rue, worm-wood or santonica are sometimes useful.

2. ASCARIS VERMICULARIS.

OXYURIS VERMICULARIS.

THE THREAD OR MAW-WORM.

These worms are termed collectively *Ascarides* or *Oxyurides*.

Habitat.—The large intestines, especially the rectum.

Description.—*Ascarides* resemble small pieces of thread, often massed together as round balls of considerable size. The male is small in comparison to the female. They are of a pale silver colour, with obtuse and rounded extremities. The females are more numerous than the males, and are recognised by their whiteness and thickness, and by their fine-pointed tail. As these worms exist in large numbers, they set up great irritation at the margin of the anus. They frequently crawl out of the rectum, and may be discovered in the bed and the clothes of the patient; they often occasion vaginitis in the female and irritation of the penis in the male.

Source of the parasite.—It is supposed that it is admitted into the intestine in the embryonic condition, through unripe fruits and salads.

Treatment.—It is not easy to expel these worms completely, since they are present in such large numbers. Injections are of great service, such as infusion of quassia or of chamomile, or of lime water. Aperients must also be used, such as calomel and jalap, or colocynth, followed by full doses of castor-oil. A combination of calomel, santonine and scammony often proves efficacious.

3. **TRICHOCEPHALUS DISPAR.**—THE LONG THREADWORM.

Habitat.—The cæcum and rectum. It is rare in this country, but common in France.

Description.—The males are more slender and shorter than the females. They differ from the ordinary tape-worm in the fact that their length is greater, their

anterior two-thirds extremely thin, and their posterior third of comparatively large size.

Treatment.—The same as of the ordinary thread-worm.

4. *TÆNIA SOLIUM*.—THE TAPE-WORM.

Habitat.—The whole track of the intestines, but especially the ileum.

Description.—These worms vary in length from four to twenty-four feet, and consist of a number of square-shaped segments. The anterior extremity is furnished with a circlet of hooklets, by which the entozoon attaches itself to the mucous membrane; behind the hooklets are three or four suckers situated round the head (scolex). Each ripe segment or proglottis represents the independent or adult form of the sexual animal, and contains independent female and male organs of generation. In the centre of the segment is a branched organ (the ovisac) which may contain thousands of ripe spherical eggs.

Source of the Parasite.—This is chiefly measly pork.

Treatment.—Joints of the worm very often escape by the bowels, before any medicine has been given, and they may pass from the patient as he moves about. The entire worm is not easily expelled by remedies; the head must always be looked for, since until this part is removed no effectual relief can be expected. The most reliable remedy is the liquid extract of male fern. This should be given in doses of one to three drachms, according to the age. The extract should be given fasting, and followed after a few hours by a full dose of castor-oil. Other remedies are: kousso as the infusion (half an ounce to an ounce in half a pint of

water); and kamala in the dose of 50 to 100 grains in water. All animal food should be cooked perfectly, so that the meat should be firm, not blood-coloured nor tremulous, and sheep's brains and pork should especially be thoroughly cooked.

5. *TÆNIA MEDIOCANELLATA*

bears a close resemblance to the *Tænia Solium*, but it only possesses a suckorial apparatus in the head, which is club-shaped, with a longitudinal slit, and is destitute of hooklets.

6. *BOTHRIOCEPHALUS LATUS*

is very rare in England, but peculiar to Poland, Russia, and Switzerland. Of all the tape-worms this is the largest, having sometimes a length of twenty-five feet, and even more, each foot having a hundred and fifty segments, and each segment possessing male and female organs.

7. *TRICHINA SPIRALIS*—*TRICHINIASIS*—*TRICHINOSIS*

These worms are exceedingly minute, and are found in the muscular tissue, each being coiled up within an oval cyst, and appearing to the naked eye as tiny white grains. The colour of the affected muscles is pale reddish grey, speckled with small light points of trichinæ, which exist in all stages of development, lying upon and within the sheaths of the muscular fibres. They have been found in all the voluntary muscles, and have been seen in the heart's substance.

Symptoms.—Great depression and lassitude, loss of appetite, and sleeplessness. There is fever, with severe

muscular pains and occasionally swelling of the joints, with œdema of the face and eyelids, succeeded at times by persistent painful contractions of the flexor muscles of the extremities. Frequently the disease commences with diarrhœa, sometimes typhous symptoms supervene, the patient dying unconscious ; but the malady usually ends in pneumonia. When fatal, trichinosis runs its course within a month from the reception of the parasite.

Source of the Parasite.—Very rare in this country, but common in Germany, from eating imperfectly cooked or raw pork or sausages. As soon as they are introduced into the stomach the trichinæ commence to develop, numberless embryos being produced in the intestines, from which they advance to the muscles, setting up violent symptoms until they become enveloped in capsules, in which condition they are harmless.

Treatment.—This must consist in avoiding German sausages or raw or underdone pork, since no remedy is known which is capable of killing the trichinæ. Santonine, being a substance which is rapidly admitted into the blood, may be tried.

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